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SUBJECT GUIDELINES

PROJECT MANAGEMENT

NQF Level 4

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PROJECT MANAGEMENT – LEVEL 4

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INTRODUCTION

A. What is Project Management?

Project Management is the discipline of defining and achieving targets while optimising the use of resources (time, money, people, materials, energy, space, etc.). Project Management is an important development strategy for all students who will need to enter and compete in the economic environment. The students are encouraged to look beyond the parameters commonly associated with enterprise. They are encouraged to change and increase their paradigms of thought, supported in the art of identifying gaps in the market that can be filled by employing careful research and planning.

B. Why is Project Management important in the Management programme?

Project Management is essential in developing the economic environment of the country. Typical projects may include technical, developmental and business related projects, including buildings, vehicles, or electronic devices. The duration of a project is the time from its start to its completion, which can take days, weeks, months or even years. In contrast to ongoing, functional work, a project is a "temporary endeavour undertaken to create a unique product, service, or result". Projects are temporary because they have a definite beginning and a definite end. They are unique because the product or service they create is different in some distinguishing way from similar products or services.

Project Management, a subject in the Management programme, allows students to integrate and use technical and management skills acquired to plan, organise and develop along structured lines so as to increase the possibilities of meeting required objectives, in a very competitive market.

C. The link between the Learning Outcomes for Project Management and the Critical and Developmental Outcomes

The outcomes required of Project Management, (which in itself is an identified scarce skill), include experiential application of knowledge, skills and attributes required in business. The ability to prepare a project plan, required in Project Management, in any business, allows for development of the student to be able to improve on other skills and to be independent and confident in a very competitive environment.

- Collect, organise, analyse and critically evaluate the roles and interests of stakeholders so that appropriate techniques are selected for approaching and obtaining their positive response
- Demonstrate an understanding of the world as a set of interrelated systems by recognising that factors influencing the business operations of the project manager do not exist in isolation and that wider economic issues, supplier and community issues can affect operations
- Demonstrate an understanding of the world as a set of interrelated systems by recognising that factors influencing the business operations of the project manager do not exist in isolation and that wider issues can influence the quality delivery of the business
- Participate as responsible citizens in the life of local, national and global communities by ensuring that business operations of the project manager are managed proactively and that all safety regulations, risk factors and legal issues are considered
- Participate as responsible citizens in the life of local, national and global communities by ensuring that business operation of the project is managed proactively within the context of economic, socio-political and community trends and developments and that all safety regulations, risk factors and legal issues are considered.
- Organise and manage oneself and one's activities responsibly and effectively to ensure that business operations of the project are managed proactively
- Organise and manage oneself and one's activities in order to be able to deliver quality services to all stakeholders
- Communicate effectively using visual, written and verbal communication modes to manage plans for a project.
- Work effectively with others as a member of a team, group, organisation or community for the project
- Identify and solve problems using critical and creative thinking processes to compile a viable project plan

D. Factors that contribute to achieving the Project Management Learning Outcomes.

- particular interests that can be explored and developed to create an opportunity for self employment
- predisposition to certain capabilities such as communication or creative flair, ability to take calculated risks, taking initiative
- analytic ability
- people-centeredness
- keen powers of observation.

1 DURATION AND TUITION TIME

This is a one year instructional programme comprising 200 teaching and learning hours. The subject may be offered on a part-time basis provided the candidate meets all the assessment requirements.

Course preparation should consider students with special educational needs

2 SUBJECT LEVEL FOCUS

Plan, execute and control activities of a simple project

3 ASSESSMENT REQUIREMENTS

3.1 Internal assessment (50 percent)

3.1.1 Theoretical Component

The theoretical component will form 40% part of internal assessment.

Internal assessment of the theoretical component of Project Management NQF Level 4 will take the form of observation, class questions, group work, (informal group competitions with rewards), individual discussions with students, Class, topic and semester tests, and internal examinations. Daily observation can be made when marking practical exercises of previous day and class questions

Assignments, case studies and tests can be done at the end of each topic. Tests and internal examinations can form part of internal assessment

3.1.2 Practical Component

Practical components include applications and exercises. All practical components must be indicated in a Portfolio of Evidence (PoE).

The practical component will form 60 percent part of internal assessment.

Internal assessment of the practical component of Project Management NQF Level 4 will take the form of assignments, practical exercises, case studies, practical examination in a simulated business environment.

Students can complete practical exercises on a daily basis. Assignments and case studies can be done at the end of a topic. Practical examination can form part of internal practical assessment.

- **Some examples of practical assessments include, but are not limited to:**
  - Presentations (lectures, demonstrations, group discussions and activities; practical work, observation, role play, independent activity, synthesis and evaluation)
  - Exhibitions by learners
  - Visits undertaken by students based on a structured assignment task
  - Research

- **Definition of the term "Structured Environment"**

"Structured environment" for the purposes of assessment refers to an actual or simulated workplace, or workshop environment. It is advised that a practicum room is available on each campus for practical assessment.

- **Evidence in practical assessment**

All evidence pertaining to evaluation of practical work must be reflected in the student's PoE. The assessment instruments used for the purpose of conducting such assessments must be part of the evidence contained in the PoE.

3.1.3 Processing of internal assessment mark for the year

A year mark out of 100 is calculated by adding the marks of the theoretical component and the practical component of the internal continuous assessment.

3.1.4 Moderation of internal assessment mark

Internal assessment is subject to both internal and external moderation procedures as contained in the *National Examinations Policy for FET College Programmes*.

3.2 External assessment (50 percent)

A national examination is conducted annually in October or November each year by means of a paper set, marked and moderated externally.

Details in respect of external assessment are contained in the *Assessment Guidelines: Project Management* (Level 4).

4 WEIGHTED VALUES OF TOPICS

TOPICS/TOPICS	WEIGHTED VALUE
1. Project delivery strategies and operations	10
2. Project initiation	25
3. Developing schedules for project management	20
4. Supervision of a project	15
5. Project risk - management	20
6. Review the project	10
TOTAL	**100**

5 CALCULATION OF FINAL MARK

Internal assessment:	Student's mark/100 x 50 = a mark out of 50	(a)
Examination mark:	Student's mark/100 x 50 = a mark out of 50	(b)
Final mark:	**(a) + (b) = a mark out of 100**	

All marks are systematically processed and accurately recorded to be available as hard copy evidence for, amongst others, purposes of moderation and verification.

6 PASS REQUIREMENTS

The student must obtain at least fifty (50) percent in ICASS and fifty percent (50) in the examination.

7 SUBJECT AND LEARNING OUTCOMES

On completion of Project Management Level 4 the student should have covered the following topics:

Topic 1: Project delivery strategies and operations
Topic 2: Project initiation
Topic 3: Developing schedules for project management
Topic 4 Supervision of a project
Topic 5: Project risk – management
Topic 6: Review the project

7.1 Topic 1: Project Delivery Strategies and Operations

7.1.1 Subject Outcome 1: Identify project types and nature and provide guidance on appropriate project strategies and tactics.

Learning Outcomes

The student should be able to:

- Define project terminology with regard to concepts, terms, procedures and techniques.
- Project concepts, terms, procedures and techniques may include but is not limited to project processes, events, causes, effects and sub-processes including initiating, planning, controlling, execution, close out processes, budgeting, approval, implementation, monitoring, evaluation, elementary risk identification, analysis, quantification, time management, risk management, quality management, resources management, communication management, scope management, contract management and supplies management, problem analysis, problem tree, Strengths, Weaknesses, Opportunities, Threats (SWOT) analysis, risk analysis, cost benefit analysis, produce, work and organisation breakdown structures, scheduling, Gantt charts, precedence diagrams, flowcharting, stakeholder analysis and management, monitoring and evaluation techniques, SMART *(Specific; Measurable; Achievable; Relevant; Time framed)* objectives and scope (boundary definition).
- Identify and describe project types and nature.
- Explain project delivery strategies and tactics.
- Delivery strategies may include but is not limited to one shot, incremental, iterative and phases.
- Assess the project strategies and tactics of a given project.

7.1.2 Subject Outcome 2: Suggest appropriate structures, methods and processes to projects.

Learning Outcomes

The student should be able to:

- Identify ground rules for project operation.
- Describe and explain a range of project structures, methods and processes.
  - Project structures may include but is not limited to organisational, work, cost, product (deliverables) and objectives.
  - Documented processes and procedures may include but is not limited to change, control, planning, procurement, communication, status reporting, payment, contract administration, close out, handover, resources and risk.
- Document and motivate suggested structures, methods and processes for a given project according to procedures.

7.1.3 Subject Outcome 3: Check and verify that a project environment is established.

Learning Outcomes

The student should be able to:

- Develop documentation of a given project to meet project audit requirements.
- Develop checklists according to project requirements.
- Explain reasons for checking and verifying.
- Develop inspection procedure for checking and verifying.

7.2 Topic 2: Project Initiation

7.2.1 Subject Outcome 1: Contribute to the identification and co-ordination of stakeholders, their roles, needs and expectations.

Learning Outcomes

The student should be able to:

- Assess components of a given project plan, in terms of stakeholders, stakeholder needs, expectations and roles; project deliverables and a format to document and record information.
  - Stakeholders may include but are not limited to client, community leaders, community members, beneficiaries, suppliers, project team members, labourer, project managers, project sponsors, directors, donor/funder, unions, users and all other parties affected directly or indirectly by the project.
- Identify a small project and develop the plans in accordance with correct procedures.

  Range: A simple project/sub-project is seen to be one that involves few resources and has a limited impact on stakeholders and the environment.

  Range: Projects may include but are not limited to technical, developmental or business related projects.
- Leadership skills and techniques are selected and used in the management of the project.

  Range: Skills may include but are not limited to professionalism, ethical values, norms and social standards, positive attitudes, perseverance, non-judgmental conduct, delegation, and clear communication.
- Identify stakeholders of the project.
- Explain and record their roles on achievement of project outcomes.
- Document and communicate approved modifications of stakeholder needs, to relevant parties.

  Range: Relevant parties may be client, team members, management, or any other stakeholder.

7.2.2 Subject Outcome 2: Contribute to the identification, description and analysis of the project needs, expectations, constraints, assumptions, exclusions, inclusions and deliverables.

Learning Outcomes

The student should be able to:

- Define and explain objectives, assumptions, needs, expectations, constraints, exclusions, inclusions and deliverables of a given project.
  Range: A project objective is something measurable towards which work is directed, a strategic position to be obtained, purpose to be achieved, result to be obtained, product to be produced or service to be performed.
- Identify objectives of the identified project.
- Develop a format to document objectives; assumptions; needs; expectations; constraints; exclusions; inclusions and deliverables.
  Range: Constraints may include but are not limited to cost, time, legal, technology, skills, knowledge, and experience.
- Develop work packages to present an overall view of project scope.
  Range: Many alternative terms are used for components of work. They may include but are not limited to activity, task, work package, and job.
  Range: Scope may include but is not limited to cost, time, quality and deliverables.
- Develop a work breakdown structure.

  Range: Structures may include but are not limited to; programme to sub project hierarchy; organisation structures; product /work/cost/organisation breakdowns note - structure is a set of interconnecting parts of any complex thing, a framework.

7.2.3 Subject Outcome 3: Contribute to preparing and producing inputs to be used for further planning activities.

Learning Outcomes

The student should be able to:

- Define and explain the scope of the identified project.
  Range: Scope may include but is not limited to cost, time, quality and deliverables.
- Develop documentation for the scope of the project.
- Develop documentation using project management tools and techniques to record the rudimentary sequence of events and/or milestones.
- Develop measures for project success, in consultation with stakeholders.
  Range: Measures for project success may include but are not limited to success factors for project performance, objective verifiable indicators and benefits resulting from deliverables.

7.2.4 Subject Outcome 4: Contribute to the monitoring of the achievement of the project's scope.

Learning Outcomes

The student should be able to:

- Explain measures that contribute to monitoring of the achievement of a project's scope.

  Range: Deviations to scope; impact of change of scope and change control procedures; documentation for recording deviations, changes and verification of complete deliverables on project.
- Identify and explain processes to contribute to the monitoring of the identified project.
  - Identify deviations from scope and opportunities for improved or corrective actions.
  - Process changes to scope according to change control procedures.
  - Analyse impact of change of scope and record.
  - Verify completed project deliverables according to specified requirements.

7.3 Topic 3: Developing schedules for project management

7.3.1 Subject Outcome 1: Demonstrate an understanding of the purpose and process of scheduling project activities.

Learning Outcomes

The student should be able to:

- Explain the purpose and importance of a schedule of activities on a project.
  Range: A simple schedule may include but is not limited to milestones, activity, time, and resource (human and/or material and/or equipment) information.
- Explain the development process of a schedule in accordance with industry practices.
  Range: International and local professional bodies linked to project management practice and standards will include but are not limited to Project Management Institute (PMI), Australian Institute of Project Management (AIPM), International Project Management Association (IPMA), and Association for Project Management (APM), Association for Construction Project Managers (ACPM), Cost Engineering Association of South Africa (CEASA) and Project Management South Africa (PMSA).
- Differentiate between completing a project - within the shortest possible time; and at specified due date.
- Explain the use of a work breakdown structure in the development of a schedule.

7.3.2 Subject Outcome 2: Define and gather information about project activities from technical (subject matter) experts and within own field of expertise.

Learning Outcomes

The student should be able to:

- Identify activities for the identified project.
  Range: Many alternative terms are used for components of work. They may include but are not limited to activity, task, work package, and job.
- Prioritise activities within scope of project.
- Identify and explain the use of documents required for identified activities.
  Range: This may include work breakdown structures, task lists, project management plan documents, risk plan, quality plan and communication plan.
- Explain the need for documents to reflect activities at a level of detail to support further planning activities.

7.3.3 Subject Outcome 3: Develop a simple schedule for a project or part thereof.

Learning Outcomes:

The student should be able to:

- Develop a simple schedule for the identified project, to reflect the following components.
  - Identify and record activity dependencies.
  - Source time duration estimates for activities form responsible individuals.
  - Record and keep updated time duration estimates.
  - Identify resources required for activities.
  - Document allocated work, per activity according to agreed processes and formats.
  - Determine project duration and record.
  - Present project schedule to stakeholders.
    Range: Schedule representation may include but not limited to Gantt/Bar charts, calendar, and list with dates.
    Range: Schedule presentation may include but is not limited to being electronic and/or hand written.

7.4 Topic 4: Supervision of a Project

7.4.1 Subject Outcome 1: Undertake the management cctivities from start to end for a small project.

Learning Outcomes

The student should be able to:

- Explain how activities and responsibilities for the activities are assigned to personnel.
- Identify communication procedures for key stakeholders.
- Identify and explain management processes of:
  - Project operations to support timeframes of project, using identified personnel.
  - Project process measurement tool to measure progress of project scope and requirements.
  - Evaluation tools to monitor evaluate and control project according to project management plan.
  - Execution of close down procedures according to project management plan.

7.4.2 Subject Outcome 2: Describe and explain the need for consistent processes and standards to achieve quality.

Learning Outcomes

The student should be able to:

- Explain the need to introduce and maintain a consistent quality control system into the project.
  Range: Quality control will include but is not limited to a single disciplinary environment, within the current organisational framework, procedures, guidelines and regulations.
- Explain the processes required to control quality, in accordance with organisational standards and practices or recognised industry practice.
  Range: Quality control activities may include but are not limited to testing, monitoring conformance with specifications, reporting on variances, recommending ways to eliminate causes of unsatisfactory performance of product and/or process, regular inspections by individuals.
  Range: Testing may include but is not limited to checking against checklists, inspections, review, verification and validation against standards and requirements.
  Range: Identifying and reporting non-conformance may include but is not limited to equipment, facilities, project information, project activities, deliverables, project outcomes, schedules, groups, and individuals.
- Deviations from specifications may be acceptable - non-conformances are unacceptable.

7.4.3 Subject Outcome 3: Describe and explain how quality management impacts a project.

Learning Outcomes

The student should be able to:

- Explain the need for quality management on a project.
- Describe the impact of good quality management on a project.
- Discuss and describe the lack of quality management on a project.
- Assess a given project's quality systems and management styles.

7.4.4 Subject Outcome 4: Supervise and monitor a team working on a small project.

Learning Outcomes

The student should be able to:

- Explain the impact of the needs and constraints of the project environment on team work and team composition.
- List supervisory activities, with reference to project teams.
- Delegate activities within the team as per project plan.
- Identify, agree and document the objectives and goals for the team according to management plan.
- Identify and describe the monitoring tool of the achievements of the team against goals and objectives.
- Identify corrective action to sustain team performance.
- Describe the implementation process of the corrective action.

7.4.5 Subject Outcome 5: Report progress for a small project.

Learning Outcomes

The student should be able to:

- Explain the variety of reporting lines within a project.
- Develop and document reporting lines of identified project.
- Identify and document priorities and requirements within the reporting process.
- Develop process to document progress in accordance with established procedures.
- Explain the need to produce reports according to client specification and timeframes.
- Develop reports to meet client needs and timeframes.

7.4.6 Subject Outcome 6: Identify and rectify problems occurring in a project.

Learning Outcomes

The student should be able to:

- Explain the problem solving process.
  - Identify problem, (root cause and symptoms); suggest solutions; assess solutions; choose the best solution(s) for the circumstance; implement and review.
- Identify and document potential problems that may occur in a project.
- Identify reporting and documenting system for problems.

7.5 Topic 5: Project Risk Management

7.5.1 Subject Outcome 1: Contribute to the assessment of the impact and likelihood of identified risks.

Learning Outcomes

The student should be able to:

- Explain a range of the risk elements of a project.
  - Risks may be a threat or opportunity.
  - Risks may include but is not limited to those within area of health and safety, technical, financial risks, human resources risks administrative, environmental, legal compliance, social ecology and management expertise.
  - Risk categories may include but is not limited to Occupational Health and Safety (OHS), technical, quality, performance, project management, legal, force majeure, organisational and external.
- Assess and describe likelihood of risk causes of the project, in consultation with appropriate stakeholders.
- Discuss and describe impact of risk effects on the project.

  Range: Assessment will be in simple terms such as low, medium or high or a scale.

7.5.2 Subject Outcome 2: Contribute to the development of risk management statements and plans.

Learning Outcomes

The sudent should be able to:

- Discuss and describe development of risk management statements and plans.
  - Identify activities to reduce or stop a risk threat cause arising.
  - Identify activities to recover from a specific risk threat event.
  - Identify activities to take advantage if an opportunity arises.
- Communication process for risk threat prevention, recovery activities and opportunity.

7.5.3 Subject Outcome 3: Monitor and control the project risks.

Learning Outcomes

The sudent should be able to:

- Explain the monitoring and control systems linked to the risk management statements and plans.
- Explain the need to communicate and document lessons learned in attending to risks.

  *Range**:** Resolution may include fixing, alternative approach, change or acceptance.*

7.6 Topic 6: Review theProject

7.6.1 Subject Outcome 1: Review, record and consolidate lessons from project experiences.

Learning Outcomes

The student should be able to:

- Document lessons learnt in execution of project.
  - Planning; controlling and closure.
    Planning, scoping, scheduling, and budgeting
  - Project management tools and techniques employed.
  - Administration and monitoring.
  - Determining risk; risk level and minimisation of risk.
  - Leadership techniques, team work; quality management.

8 RESOURCE NEEDS FOR THE TEACHING OF PROJECT MANAGEMENT – LEVEL 4

8.1 Infrastructure

- A computer training venue, with software programmes; (e.g. MS Word, MS Excel, MS PowerPoint);internet access and printers.
- Theory training venue with adequate ventilation and seating.

8.2 Human resources

- Qualified Educators (with a three-year post matriculation qualification) with at least two years teaching experience,
  - Computer skills with at least one level higher than the level of delivery.
  - Mathematics as specified for fundamentals.
- Accounting as per the financial subject.

8.3 Other resources

- **Consumables**
  - Diskettes, stationary, lever arch files, daily newspaper, learning materials/resources
- **Equipment**
  - Computers and printers (as per physical resources).
  - In-out trays.
  - Commercial stapler and commercial punch.
  - “Gantt” system would be an advantage, but a manual template may be used.
  - Financial computerised programme would be an advantage.